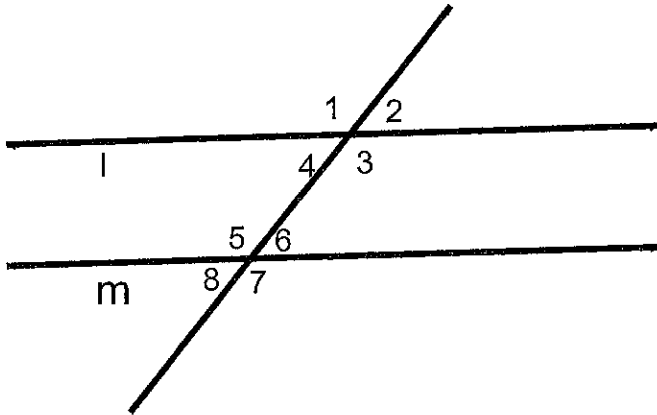


Name \_\_\_\_\_

Date \_\_\_\_\_

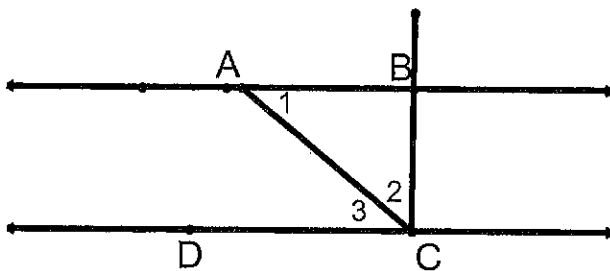
## 202 Proving lines Parallel

1. Given:  $\angle 2 \cong \angle 8$   
 Prove:  $l \parallel m$



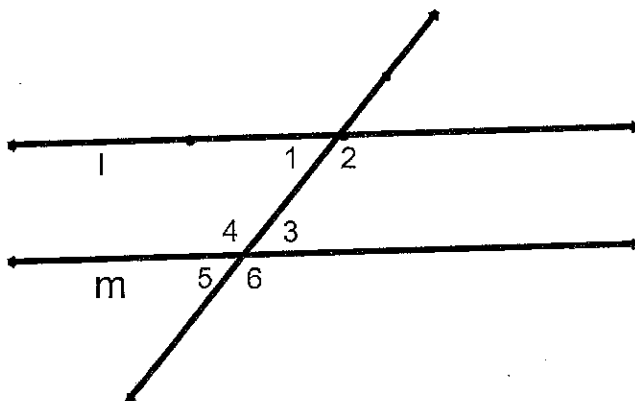
Statements	Reasons

2. Given:  $\angle 1 \cong \angle 2$   
 $\overrightarrow{CA}$  bisects  $\angle DCB$   
 Prove:  $AB \parallel DC$



Statements	Reasons

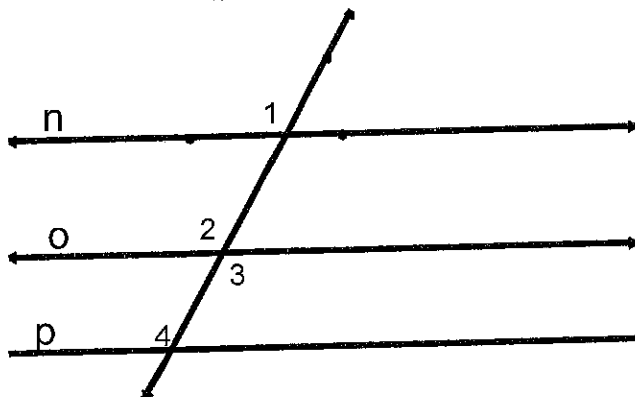
3. Given:  $\angle 5$  and  $\angle 2$  are supplementary  
 Prove:  $l \parallel m$



Statements	Reasons

4. Given:  $\angle 1 \cong \angle 3$ ;  $\angle 4 \cong \angle 3$

Prove:  $n \parallel p$

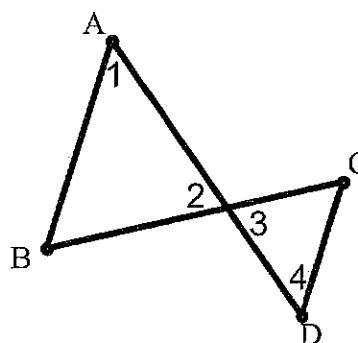


Statements	Reasons

5. Given:  $\angle 1$  and  $\angle 2$  are complementary

$\angle 3$  and  $\angle 4$  are complementary

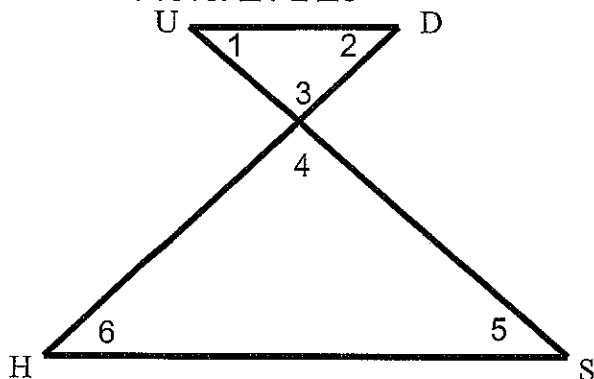
Prove:  $AB \parallel CD$



Statements	Reasons

6. Given:  $\angle 2 \cong \angle 6$

Prove:  $\angle 1 \cong \angle 5$



Statements	Reasons

# 3-5 Skills Practice

## Proving Lines Parallel

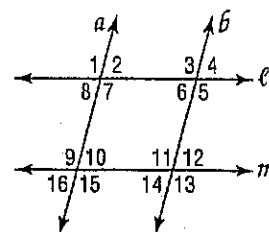
Given the following information, determine which lines, if any, are parallel. State the postulate or theorem that justifies your answer.

1.  $\angle 3 \cong \angle 7$

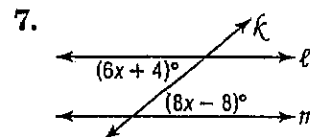
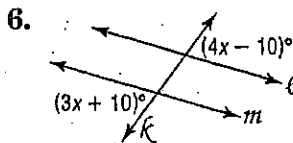
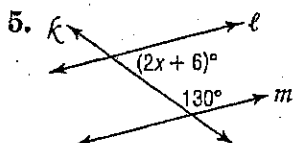
2.  $\angle 9 \cong \angle 11$

3.  $\angle 2 \cong \angle 16$

4.  $m\angle 5 + m\angle 12 = 180$



Find  $x$  so that  $\ell \parallel m$ .



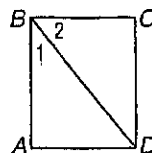
8. **PROOF** Provide a reason for each statement in the proof of Theorem 3.7.

Given:  $\angle 1$  and  $\angle 2$  are complementary.

$$\overline{BC} \perp \overline{CD}$$

Prove:  $\overline{BA} \parallel \overline{CD}$

Proof:



Statements

Reasons

1.  $\overline{BC} \perp \overline{CD}$

1.

2.  $m\angle ABC = m\angle 1 + m\angle 2$

2.

3.  $\angle 1$  and  $\angle 2$  are complementary.

3.

4.  $m\angle 1 + m\angle 2 = 90$

4.

5.  $m\angle ABC = 90$

5.

6.  $\overline{BA} \perp \overline{BC}$

6.

7.  $\overline{BA} \parallel \overline{CD}$

7.

Determine whether each pair of lines is parallel. Explain why or why not.

